



IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Application No.: 10/334,137

Applicant: MURDIN, Andrew D. et al.

Filed: December 31, 2002

TC/A.U.: 1645

Examiner: Nita M. Minnifield

Docket No: 032931/0261

Commissioner for Patents
P.O. Box 1450
Washington, D.C. 20231

DECLARATION PURSUANT TO 37 CFR § 1.132

I, Andrew Murdin, Director, External R&D Canada, Aventis Pasteur, hereby declare that:

1. Details of my employment history are as follows:

Since 2002 Director, External R&D Canada, Aventis Pasteur.

1999 - 2002 Principal Research Scientist, Aventis Pasteur.

1997 - 2002 Section Head, Aventis Pasteur

1993 - 2003 Project Leader (Chlamydia), Aventis Pasteur

1990 - 1993 Research Scientist, Connaught Laboratories Ltd. (subsequently Pasteur Merieux Connaught, subsequently Aventis Pasteur), Toronto, Canada

1988 to 1990 - Post-Doctoral Research Associate, Dept. of Microbiology, State University of New York, Stony Brook, NY, USA.

1985 to 1987 - Post-Doctoral Research Fellow, Dept. of Microbiology, University of Surrey, Guildford, Surrey, England.

1981 to 1985 - Scientific Officer, Vaccine Research Dept., Animal Virus Research Institute, Pirbright, Surrey, England.

2. Details of my education are as follows:

B.Sc., University of Bath, England, 1980

Ph.D., University of Surrey, England, 1986

3. I have reviewed U.S. patent No. 6,559,294 to Griffais et al. ("Griffais"), which is cited in the Office Action mailed September 11, 2003.

4. Griffais sequenced the *C. pneumoniae* genome and identified 1296 putative open reading frames (see Table 1 of Griffais).

5. Griffais says any of the 1296 open reading frames can be used to make a vaccine. This is incorrect as discussed below.

6. Experiments conducted by the assignee Aventis Pasteur Limited demonstrate that only a few of the 1296 open reading frames can be used as vaccines.

7. Thirty six *C. pneumoniae* open reading frames coding for outer membrane proteins were tested for their ability to protect against *C. pneumoniae* infection in the *in vivo* mouse model. The attached Summary of Protective Results specifies:

- which construct was used for immunization. The constructs were made essentially as described in Examples 1 and 2 of the specification;
- which of Griffais' SEQ ID NOS correspond to the sequences in the construct, and
- whether these sequences confer protection. Testing of the constructs for immuno-protection was performed as described in Example 3 of the specification.

8. The attached Raw Biologic Data show the raw data (bacterial load per lung) in each experiment. The experiments were performed as described in Example 3 of the specification.

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9. As is clear from the Summary of Protective Results and the Raw Biologic Data, of the 36 *C. pneumoniae* ORFs tested, only 8 (i.e. 22%) provided a protective effect.

10. These results confirm that Griffais is incorrect in stating that any of the 1296 open reading frames can be used in a vaccine.

11. I hereby declare that all statements made herein of my knowledge are true and that all statements made on information and belief are believed to be true; and further that these statements were made with the knowledge that willful false statements and the like are punishable by fine or imprisonment, or both, under section 1001 of Title 18 of the United States Code, and that such willful false statements may jeopardize the validity of this application or any patent issuing thereon.

February 11th 2004

Date



Andrew Murdin,

Director, External R&D Canada

SUMMARY OF PROTECTIVE RESULTS

Plasmid-ID	Hit Description/Comment	corresponding SEQ ID No from WO99/27105	PROTECTIVE Yes/No	Tested in Screens/Group	WILCOXON "p" value (vs SALINE/PBS immunized-group B-on day 9, unless otherwise noted)
pcAI877	pmp1; putative 98 kDa outer membrane protein; CP 036	15	NO	S8 -group E	day 5-0.7302
					day 9-0.9048
pcAI397	pmp2; putative 98 kDa outer membrane protein; CP 017	25	NO	S3 -group E	day 5-0.5714
					day 9-0.3929
pcAI396	CP 014	28	YES	S4 -group F	S4-day 5-1.75
					S4-day 9-1.75
				S47 -group H	S47-0.007992
pcAI395	pmp4; putative 98 kDa outer membrane protein; CP 013	31/32	NO	S4 -group E	day 5-0.7857
					day 9-1.214
pcAI394	pmp5; putative 98 kDa outer membrane protein; CP 012	33/35	NO	S4 -group D	day 5-0.5714
					day 9-1.429
pcACPNM 200	IncA; inclusion membrane protein	201	NO	S34 -group D	0.2844



PCAI314	outer membrane protein; CP 008; Incyte 314	291	NO	S2 -group E	S2-day 5-0.7857
				S52 -group E	S2-day 9-0.7857
				S52 -group E	S52-1.338
PCAI114	inclusion membrane protein B	304	NO	S17 -group D	0.7546
PCAI115	inclusion membrane protein C; CP 011	305	YES	S10 -group D	S10-day 5-0.03175
					S10-day 9-0.9048
				S56 -group K	S56-0.4136
PCAI111	outer membrane protein Omp85; CP 015	314	NO	S7 -group D	0.7302
PCABK319	OmpH-like outer membrane protein	315	NO	S32 -group H	S32-0.04262
				S47 -group I	S47-0.2284
PCAI368	pmp 6; putative 98 kDa outer membrane protein	466	NO	S17 -group I	1.655
PCAI640	pmp 7; putative 98 kDa outer membrane protein; CP 032	468	NO	S9 -group G	S9-day 5-0.03175
					S9-day 9-0.9048
				S56 -group F	S56-1.665

pCAI639	pmp 8; putative 98 kDa outer membrane protein; CP 031	470	NO	S7 -group F	day 9 only-0.9048
pCAI638	pmp 9; putative 98 kDa outer membrane protein; CP 030	472	NO	S41 -group D	S41-0.0293
				S56 -group G	S56-1.338
pCAI635	pmp 10; putative 98 kDa outer membrane protein; CP 029	477	NO	S38 -group I	S38-0.01998
				S57 -group H	S57-0.1812
pCAI634	pmp 11; putative 98 kDa outer membrane protein; CP 028	478	NO	S9 -group F	day 5-0.4127
					day 9-1.27
pCAI633	pmp 12; putative 98 kDa outer membrane protein	479	NO		
pCAI632	POMP91B precursor	480/482	NO	S10 -group G	S10-day 5-0.01587
					S10-day 9-0.5556
				S45 group H	S45-1.655
				S53 -group H	S53-0.1375
pCAI630	POMP91A	485	NO	S10 -group F	day 5-0.1111
					day 9-0.4127
pCAI628	putative 98 kDa outer membrane protein; CP 027	500	NO	S9 -group E	day 5-0.5556
					day 9-0.25

pCAI626	POMP90B precursor	500/501	NO

pCAI624	putative 98 kDa outer membrane protein	503	NO	S21 -group H	0.5728
pCAI622	POMP90B precursor	506	NO		
pCAI327	POMP91A	577	YES	S18 -group D	S18-0.01265
				S45 -group F	S45-0.4136
				S53 -group F	S53-0.004662
pCAI325	pmp 20; putative 98 kDa outer membrane protein	580	NO		
pCAI711	putative outer membrane protein	580	NO	S18 -group E	0.2824
pCA60kDa	60kDa CrP; outer membrane protein; CP 004	596	YES	S5 -group E	S5-day 5-0.03175
					S5-day 9-0.01587
				S27 -group H	S27-0.001335
				S43 -group J	S43-0.002664
				S44 -group J	S44-vs S43 grp B-0.007992
				S49 -groups J/K/L	S49-J-0.3095
					S49-K-0.9048
					S49-L-0.1508
				S50 -groups F/I	S50-F-0.345
					S50-I-0.000666
				S54 -group J	S54-0.7546

pcAMOMP	major outer membrane protein; in S3-used recombinant CP MOMP; in S20-used CP MOMP ISCOMs	737	YES	S1 -group D	S1-day 5-0.3929
				S1-day 9-1.75	
			S3 -group F	S3-day 5-0.25	
				S3-day 9-0.7857	
			S16 -groups D/G/H/F	S16-D-0.2468	
				S16-G-0.1775	
				S16-H-0.6991	
				S16-F-0.1255	
			S20 -group H	S20-0.05927	
			S27 -group I	S27-0.0293	
			S31 -groups D/E/F/G/H/I	S31-D-0.04262	
				S31-E-0.001332	
				S31-F-0.5728	
				S31-G-0.8518	
				S31-H-0.1812	
				S31-I-1.427	
			S50 -groups E/I	S50-E-0.002664	
				S50-I-0.000666	
			YES	S51 -group F	0.01399
pCAI555a	76 kDa protein-alternative reading frame	776/775			

pCAI419	PiIG	876	NO	S10 -group E	S10-day 5-0.01587
				S10-day 9-0.1111	
				S45 -group E	S45-1.509
				S53 -group E	S53-0.9452
pcACP NM	Predicted OMP	877	NO	S37 -group E	needed to be retested and never was
879					
pcACP NM	Hypothetical protein; sec. locus ORF	880	NO	S44 -group I	S44-vs S43 grp B-0.0293
882				S52 -group G	S52-0.7546
				S54 -group I	S54-0.662
pCAI473	Unannotated Orf	1035	YES	S23 -group I	0.08125
PCA9kDa	9kDa CtrP; CP003	597	NO	S5 -group D	day 5-0.2857
					day 9-0.1905

RAW BIOLOGIC DATA

Note: sample dilution

S1-S7 - 1:30 and 1:100, in duplicate
S8-S57 - 1:50 and 1:100; 1:100 and 1:200

Screen #	\$1
Date	

pCAIMOMP Genset SEQ ID NO 737

GENSEI SEQ ID NO 291
PCAI314

RCAMOMP Genset SEQ ID NO 737

B6	9	85	84	31	20	25800	20400	23100				
E1	5	43	5	23	23	9600	18400	14000	8820	630637353	0.7457	DNA CF 008
E2	5	24	43	6	2	13400	4000	6700				Incyte 314
E3	5	34	15	24	27	8800	20400	15100				
E4	5	20	53	16	0	15800	6400	11100				
E5	5	1	1	0	0	400	0	200				
E6	9	11	8	5	4	36000	36000	3700	5640	3015029802	0.7457	DNA CF 008
E7	9	53	22	19	0	15000	7600	11300				Incyte 314
E8	9	9	1	23	3	2000	10400	6200				
E9	9	18	6	6	2	4400	3200	3800				
E10	9	13	5	4	3	3600	2600	3200				

Screen # 3 53
Date

Notebook # 1837
Page # 16

GenSet SEQ ID NO 25

Mouse ID	Day post challenge	Plate A		Plate B		Average IFU per lung @ 1:50	Average IFU per lung @ 1:100	Group SD (EU/Flu/ug)	'Wilcoxon P value vs grp B, same day)	Immunized with
		Inducions per well @ 1:50	Inducions per well @ 1:100	Inducions per well @ 1:50	Inducions per well @ 1:100					
B1	5	20	34	10	15	12000	10000	40000	33961.2657	na
B2	5	228	193	126	106	83000	82000	88000		saline
B3	5	61	46	36	26	21000	24000	23100		
B4	9	20	22	18	16	9600	7200	8400	93986.689617	3777.41628
B5	9	5	10	7	12	3000	7800	5300		saline
B6	9	39	39	17	16	15000	13200	14400		
E1	5	22	254	83	123	55200	62400	68800	44400	13601.9116
E2	5	12	153	46	99	33000	58000	45500		DNA CP 017
E3	5	43	123	34	59	33200	32700	35200		Incyte 397
E4	5	116	69	64	47	43000	44400	43700		
E5	5	23	123	5	86	28200	28400	28900		
E6	9	56	208	55	95	52400	60000	56200	21980	18040.9091
E7	9	42	84	3	49	25200	20800	23000		0.3129
E8	9	6	33	12	14	7800	10400	8100		DNA CP 017
E9	6	23	8	12	12	5800	8000	6900		Incyte 397
E10	9	9	60	12	20	15400	12800	14100		
F1	5	26	17	31	10	8600	18400	12500	10860	3161.3921
F2	5	32	27	7	11	11900	7200	9500		0.25
F3	5	9	18	5	7	5400	4800	5100		rec. CP MONMP
F4	5	43	23	12	28	13200	15200	14200		
F5	5	22	30	20	14	10400	13900	12000		
F6	9	18	12	14	7	6000	8400	7200	11420	52996.59489
F7	9	9	11	6	6	4000	4800	4400		0.7457
F8	9	62	65	10	20	25400	12000	18700		
F9	9	48	27	11	6	15000	5800	16900		
F10	9	43	32	13	29	15000	16900	15900		

Screen #		Notebook #		Genset SEQ ID NO 33/35		Genset SEQ ID NO 31/32		Genset SEQ ID NO 28	
Date	Page #	20		PCA1394	PCA1395	PCA1396			
Mouse ID	Day post challenge	Plate A Inclusions per well @ 1:50	Plate B Inclusions per well @ 1:100	Plate A Inclusions per well @ 1:50	Plate B Inclusions per well @ 1:100	Average IFU per lung @ 1:50	Average IFU per lung @ 1:100	Group mean IFU per lung	Wilcoxon p value (vs grp B, same day)
B1	5	52	39	15	12	18200	10800	21600	17582/2331 na
B2	5	144	102	39	67	48200	42400	45800	
E3	5	12	7	2	11	3800	5200	4500	
B4	9	38	45	28	25	16200	18700	11466/6667 5134/41547 na	
B5	9	20	19	8	9	7800	6800	7300	
B6	9	12	28	9	13	8000	8800	8400	
D1	5	102	85	52	43	37400	38600	37700	27080 11345/5695 0.5714
D2	5	65	51	28	28	23200	22400	22800	
D3	5	52	45	7	17	19400	8600	14800	
D4	5	26	52	29	18	15000	18200	17200	
D5	5	99	108	75	43	39600	47200	43100	
D6	9	58	26	34	12	18400	18400	17400	9030 5251/61673 1.429
D7	9	44	32	13	9	15200	8800	12000	
D8	9	13	6	4	4	3800	3200	3500	
D9	9	17	14	2	1	6200	1200	3700	
D10	9	23	29	11	7	10400	7200	6800	
E1	5	44	42	22	28	17200	20400	18800	21640 15249/7344 0.7657
E2	5	45	43	7	13	17800	8000	12800	
E3	5	14	11	6	6	5000	6400	5700	
E4	5	47	55	26	26	20400	20800	20800	
E5	5	122	121	60	70	48500	52000	50300	
E6	9	41	72	44	58	22800	40000	31300	18220 17153/2388 1.214
E7	9	1	0	1	1	200	800	500	
E8	9	15	116	58	53	48200	44400	45300	
E9	9	12	13	10	9	5000	7600	6300	
E10	9	16	17	13	9	68000	68000	7700	
F1	5	12	1	5	10	2800	6000	4300	
F2	5	34	39	10	20	14800	12000	13300	
F3	5	32	31	11	12	12800	9200	10800	
F4	5	20	5	7	6	5000	6000	5500	
F5	5	41	34	15	18	15000	12400	13100	
F6	9	23	28	18	15	8800	13200	11500	4400 3658/8616 1.75
F7	9	8	5	1	6	2800	2800	2700	
F8	9	12	10	3	4	4400	2800	3600	
F9	9	5	5	0	0	2000	0	1000	

F10	9	3	11	4	5	2800	3800	3200			
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Screen #	\$7
Date	

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nc = not counted (due to background). There were problems with background. Therefore counting of inclusions was very difficult. Only 9 samples were counted at 1:100 dilution. Where count of 1:100 dilution was low count of 1:50 dilution was made.

Genset SEQ ID NO 314
Genset SEQ ID NO 470

Mouse ID	Day post challenge	Plate A inclusions per well @ 1:50	Plate B inclusions per well @ 1:50	Plate A inclusions per well @ 1:100	Plate B inclusions per well @ 1:100	Average IFU per lung @ 1:50	Average IFU per lung @ 1:100	Average IFU per lung	Group mean IFU/lung	Wilcoxon P value vs grp B, same day	Wilcoxon P value vs grp B, same day
B6	9	nc	nc	121	183			121600	57380	44196.036	na
B7	9	nc	nc	93	112	82000					saline
B8	9	13	16	4	3	5800	2800	4300			
B9	9	30	36	9	15	12000	9500	11400			
B10	9	nc	nc	85	84	61600	61600				
D5	9	nc	nc	118	185			125600	86700	18278.514	0.7302
D6	9	nc	nc	94	115	83600		83600			CPN100111
D7	9	nc	nc	121	122			101200			
D8	9	nc	nc	99	122			88400			
F5	9	18	41	4	21	11800	10000	10900	61025	26555.5727	0.0048
F6	9	nc	nc	87	101			75200	75200		CPN100639
F7	9	nc	nc	86	91			70800			
F8	9	nc	nc	105	113			87200	87200		

Screen #	S6
Notebook #	1837

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pCAIB77

Genset SEQ ID NO 15

Mouse ID	Day post challenge	Plate A		Plate B		Average IFU per lung @ 1:50	Average IFU per lung @ 1:100	Average IFU per lung @ 1:200	Group SD IFU/lung	Wilcoxon p value (grp B, same day)	Immunized with saline
		Inclusions per well @ 1:50	Inclusions per well @ 1:100	Inclusions per well @ 1:50	Inclusions per well @ 1:100						
B1	5	229	135	143	71	91600	111200	115300	106900	196720	693201.973
B2	5	385	190	170	88	146000	144000	140800	143700		
B3	5	510	353	378	160	204000	282800	256000	281400		
B4	5	719	436	358	148	287600	317600	236800	286900		
B5	5	479	261	262	98	191600	205200	156800	191700		
B6	9	132	69	75	20	52800	57800	32000	50000	137200	132556.228
B7	9	151	63	71	27	60400	53800	43200	52700		
B8	9	155	75	84	22	62000	63800	35200	68100		
B9	9	373	113	211	76	145200	123600	121600	132500		
B10	9	1089	425	580	213	438600	402000	340800	395100		
E1	5	483	242	240	132	185200	192800	211200	198500	337650	108397.944
E2	5	1210	699	509	269	484000	479200	430400	4681200		DNA CP C68
E3	5	630	331	345	157	330000	270400	252000	281000		CPN10877
E4	5	1041	647	450	209	418400	438800	334400	407100		
E5	9	2448	1323	1590	915	976200	1165200	1484000	1193400	633925	517291.124
E6	9	2756	1435	1278	661	1103200	1125800	1057600	1103000		0.0048
E7	9	140	69	66	35	58000	54000	56000	55000		
E8	9	513	237	234	97	205200	188400	156200	184300		

Screen #	S10
Date	

GenSet SEQ ID NO 305
GenSet SEQ ID NO 876
GenSet SEQ ID NO 485
GenSet SEQ ID NO 480

Note: samples tested at 1:100, 1:200, 1:200 and 1:400 in this screen

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F7	9	63	30	39	8	86400	55200	25600	56800			
F8	9	31	10	19	8	24800	23200	25600	24200			
G1**	5	426	215	163	77	171600	175200	122200	161300	124025	330055122	0.01587
G2	5	153	72	65	29	122400	108600	92800	108600			DNA pCA1632
G3	5	212	128	91	23	161800	175200	73600	148400			
G4	5	87	40	79	16	69600	85200	51200	77800			
G5	9	124	46	33	12	99200	63200	38400	68000	122450	43613.3987	0.4556
G6	9	274	118	120	46	219200	190400	153600	188400			DNA pCA1632
G7	9	168	67	74	30	134400	112800	88000	114000			
G8	9	209	65	58	38	167200	98400	121600	121400			

Screen #	S16
Date	

1-10-11-12-13

An error was made in Group B, where the mice were challenged with saline instead with C.p. In order to calculate a Mann-Whitney *n* values from Screen 14 as data of study, and IFU values are similar S14 values are in RED.

Genset SEQ ID NO 737

pCA11OMP

Notebook # 1837

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Screen #	S20
Date	

Mouse ID	Day post challenge	Plate A		Plate B		Average IFU per lung @ 1:50	Average IFU per lung @ 1:100	Group mean IFU/lung	Wilcoxon p value (vs grp B)	Immunized with
		Inclusions per well @ 1:50	Inclusions per well @ 1:100	Inclusions per well @ 1:50	Inclusions per well @ 1:100					
B1	9	73	29	42	17	29200	28400	27200	134387.5	142221.222
B2	9	1110	523	689	311	444000	486800	497600	478800	
B3	9	515	234	275	120	208000	203800	192000	201300	
B4	9	338	159	178	81	135200	134800	138600	138600	
B5	9	53	27	37	14	21200	25600	22400	23700	
B6	9	83	51	43	22	33200	37600	35200	35900	
B7	9	238	130	152	72	94400	112800	115200	108800	
B8	9	105	76	61	42	66000	623000	617200	641700	
H1	9	208	76	110	47	82400	75200	75200	77000	34116.8897
H2	9	60	45	45	13	24000	36000	20900	26200	0.05927
H3	9	13	3	16	4	5200	6700	6400	67100	CFP MONMP ISCOMs
H4	9	182	77	88	28	64800	66000	44400	60400	
H5	9	46	21	26	12	18400	18900	16200	18100	
H6	9	40	11	18	7	16000	11600	11200	12600	

Genset SEQ ID NO 503

pCA1624

Notebook # 1837

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Screen #	S21
Date	

Mouse ID	Day post challenge	Plate A		Plate B		Average IFU per well @ 1:100	Average IFU per well @ 1:50	Group mean IFU/lung	Wilcoxon p value (vs grp B)	Immunized with
		Inclusions per well @ 1:50	Inclusions per well @ 1:100	Inclusions per well @ 1:100	Inclusions per well @ 1:50					
B1	9	172	75	86	44	68000	70000	68000	78875	37656.7613
B2	9	48	13	18	16	19200	12400	56400	18200	PBS
B3	9	163	77	71	34	65200	59200	54000	59500	
B4	9	93	62	58	22	37200	47200	35200	41700	
B5	9	208	106	116	55	82400	68800	88000	67000	
B6	9	184	91	92	50	73000	80000	75000		
B7	9	301	143	158	69	120400	122400	110400	118900	
B8	9	435	173	180	73	174000	143200	116800	144300	
H1	9	180	101	86	37	72000	74800	59200	70200	134600
H2	9	531	255	256	128	212400	204400	208500	208500	DNA pCA1624
H3	9	201	97	123	32	69400	68600	51200	76900	
H4	9	627	241	268	113	250800	376000	480800	41200	
H5	9	569	237	274	110	227800	204400	178000	203100	

Genset SEQ ID NO 1035

pCA1473

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Screen #	S23
Date	

Mouse ID	Day post challenge	Plate A		Plate B		Average IFU per lung @ 1:200	Average IFU per lung @ 1:100	Group mean IFU/lung	Group SD IFU/lung	Wilcoxon p value (vs grp B)	Immunized with
		Inclusions per well @ 1:50	Inclusions per well @ 1:100	Inclusions per well @ 1:200	Inclusions per well @ 1:50						
B1	9	194	118	109	83	71800	90800	100800	90000	141787.5	122234.762
B2	9	156	86	104	40	62400	76000	84000	68500	na	PBS
B3	9	298	155	182	98	116200	134800	156800	136400	na	
B4	9	961	582	618	305	384400	480000	488000	458100	na	
B5	9	367	179	222	124	146800	186400	188400	186500	na	
B6	9	145	79	60	18	58000	55800	28800	49500	na	
B7	9	32	21	11	10	12800	12800	16000	13650	na	
B8	9	356	216	193	83	142400	163800	132800	150600	na	
11	9	83	42	60	19	33200	40800	30400	36300	50333.3333	182025.2587
12	9	78	66	66	22	31200	52800	55200	43000	na	DNA pCa1473
13	9	159	65	80	33	63800	58000	52800	58100	na	
14	9	180	65	90	33	72000	62000	52800	62200	na	
15	9	75	28	32	10	30000	24000	18000	23500	na	
16	9	215	77	122	44	86000	78800	70400	78900	na	

Screen #	527	Notebook #	1837	pCA60kDa		Genset SEQ ID NO 596		pCAIMOMP		Genset SEQ ID NO 737	
				Page #	181	Plate A	Plate B	Plate A	Plate B	Plate A	Plate B
Mouse ID	Day post challenge	Incisions per well @ 1:50	Incisions per well @ 1:100	Incisions per well @ 1:100	Incisions per well @ 1:100	Average IFU per lung @ 1:50	Average IFU per lung @ 1:100	Average IFU per lung @ 1:100	Average IFU per lung @ 1:100	Group mean IFU/lung	Wilcoxon p value (vs GFP B)
B1	9	210	140	133	72	84000	105200	115200	104400	7482.5	44432.7253
B2	9	71	30	58	23	28400	35200	36800	33800	na	PBS
B3	9	195	138	116	70	78000	100800	112000	97900		
B4	9	77	50	54	30	30800	41600	41600	40500		
B5	9	378	225	202	102	151200	170800	163200	164000		
B6	9	154	89	62	34	61600	71200	54400	63200		
B7	9	201	106	76	44	80400	72800	70400	74100		
B8	9	43	28	19	7	17200	18000	11200	16100		
H1	9	12	8	3	4	48000	44000	64000	50000	8883.33333	5473.69974
H2	9	45	23	24	12	18000	18800	19200	18700		DNA pCA CRMP 60K
H3	9	20	10	7	4	8000	6800	6400	7000		
H4	9	32	23	6	7	12800	11800	11200	11800		
H5	9	28	12	11	5	11200	8200	8000	9400		
H6	9	4	2	1	1	18000	12000	18000	14000		
H	9	55	28	17	12	22000	17200	18200	18900	25850	10914.2554
I2	9	88	37	40	18	34400	30800	28800	31200	0.0283	DNA pCAIMOMP
I3	9	49	27	22	10	19800	19800	18000	18700		
I4	9	38	13	15	5	15200	11200	8000	11400		
I5	9	145	47	50	28	58000	38800	44800	45100		
I6	9	70	42	32	17	28000	28800	27200	28800		

pCAIMOMP

Genset SEQ ID NO 737

Screen #	S31
Date	

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Mouse ID	Day post challenge	Plate A		Plate B		Average IFU per lung @ 1:200	Average IFU per lung @ 1:100	Group mean IFU/lung	Wilcoxon P value (vs grp B)	Immunized with
		Inclusions per well @ 1:50	Inclusions per well @ 1:100	Inclusions per well @ 1:50	Inclusions per well @ 1:100					
B1	9	135	60	67	36	54000	50500	53100	47525	28882.8282
B2	9	147	80	51	29	58000	52400	48400	52500	PBS
B3	9	142	75	71	33	56900	58400	52900	56500	
B4	9	304	138	141	69	121600	110800	104000	113400	
B5	9	79	49	29	19	31900	31200	30300	31100	
B6	9	61	37	28	11	24400	28600	17600	23500	
B7	9	45	11	15	6	18000	10400	8800	12100	
B8	9	89	59	42	19	38600	40400	36300	37700	
D1	9	23	13	12	8	9200	10000	12800	10550	8151.43137
D2	9	37	18	24	14	14400	16000	22400	17500	DNA pCAI MONP IN + IM
D3	9	65	31	49	28	28000	41800	32900		
D4	9	41	15	15	9	16400	12000	14400	13700	
D5	9	39	17	27	18	15000	17800	25900	19100	
D6	9	64	24	43	25	25000	261000	40000	28900	
E1	9	11	3	3	1	4400	2400	1600	2700	2288.68897 4585.72885
E2	9	33	16	20	7	13200	14400	11200	13300	DNA pCAI MONP IN only
E3	9	17	8	14	4	6800	8800	6400	7700	
E4	9	25	16	19	6	10000	14000	9600	11800	
E5	9	20	9	15	2	8000	9800	3200	7800	
E6	9	2	1	0	0	800	400	0	400	
F1	9	34	18	17	7	13600	13200	11200	12800	18982.3333 27897.934
F2	9	149	54	69	20	59600	48200	32000	47500	DNA pCAI MONP IN only
F3	9	108	35	47	12	43200	32900	19200	32000	
F4	9	2	1	0	1	800	400	1800	800	
F5	9	122	54	80	33	48800	45800	32800	48200	
F6	9	284	101	113	45	105600	65000	72000	67200	
G1	9	47	11	31	12	18000	16800	19200	17900	54282.3333 45976.0886
G2	9	57	14	14	7	22900	11200	20400	14100	DNA pCAI MONP + 78 KD
G3	9	56	24	26	12	22000	20000	19200	20400	
G4	9	278	100	132	67	110400	92900	107200	100800	DNA pCAI MONP IN + IM
G5	9	118	50	60	14	47200	44000	22100	39100	
G6	9	415	158	184	54	186000	140000	86400	131100	
H1	9	112	58	43	28	44000	40400	44000	42000	25865.6687 12155.3873
H2	9	80	48	39	22	32000	34000	35200	33900	+ 78 KD
H3	9	50	22	26	9	18200	14400	18200	16200	
H4	9	42	14	17	12	18600	12400	19200	15200	
H5	9	25	7	13	4	10000	8000	6400	8100	

H8	9	111	41	49	22	44400	38000	35200	37900			
11	9	54	30	28	18	21600	23200	28900	24200	70168.6687	33333.0997	1.427
12	9	112	58	44	24	44500	42800	39400	41200			DNA pCAT MONP + 78 AD
13	9	277	122	137	51	110800	103600	81800	98900			IN only
14	9	328	152	158	71	136400	124000	119500	120000			
15	9	170	67	94	39	68000	72400	82400	68800			
16	9	207	71	91	27	82900	64800	43200	63900			

Screen # **S32**Notebook # **1841**Page # **18**

Genset SEQ ID NO 315

Screen #	Date
S32	

Mouse ID	Day post challenge	Plate A		Plate B		Plate A Inclusions per well @ 1:50	Plate B Inclusions per well @ 1:100	Average IFU per lung @ 1:50	Average IFU per lung @ 1:100	Average IFU per lung @ 1:200	Average IFU per lung @ 1:200	Group mean IFU/lung	Group SD IFU/lung	Wilcoxon p value (vs grp B)	Immunized with
		Inclusions per well @ 1:100													
B1	9	141	91	72	50	58400	65200	80000	86700	61587.5	20864.8124	na			PBS
B2	9	148	106	68	43	69200	68600	68600	68800	68800	68800	na			
B3	9	134	65	55	36	53800	52000	52000	57800	53800	53800	na			
B4	9	91	55	49	22	38400	41600	35200	38700	35200	38700	na			
B5	9	324	172	151	75	129600	129200	120000	127000	129600	129200	na			
B6	9	54	31	40	21	21600	24800	38600	38600	24800	38600	28000	28000	na	
B7	9	80	47	61	14	32000	43200	22400	35200	32000	43200	22400	22400	na	
B8	9	173	103	90	53	69200	80800	84800	78900	69200	80800	78900	78900	na	
H1	9	93	64	35	27	37200	35600	43200	37500	26916.6887	18054.2224	0.04282			DNA pCABk319
H2	9	35	17	13	7	14000	12000	11200	12300	14000	12000	11200	12300	na	
H3	9	102	45	52	27	49600	38600	42200	49400	49600	38600	42200	49400	na	
H4	9	0	0	0	0	0	0	0	0	0	0	0	0	0	
H5	9	116	53	54	26	48400	44800	41600	44400	48400	44800	41600	44400	na	
H6	9	69	30	40	14	27500	28000	22400	26500	27500	28000	22400	26500	na	

Screen # **S34**Notebook # **1841**Page # **30**

Genset SEQ ID NO 201

Screen #	Date
S34	

Mouse ID	Day post challenge	Plate A		Plate B		Plate A Inclusions per well @ 1:50	Plate B Inclusions per well @ 1:100	Average IFU per lung @ 1:50	Average IFU per lung @ 1:100	Average IFU per lung @ 1:200	Average IFU per lung @ 1:200	Group mean IFU/lung	Group SD IFU/lung	Wilcoxon p values (vs grp B)	Immunized with
		Inclusions per well @ 1:100													
B1	9	432	231	229	128	172800	184000	204800	186400	141587.5	84314.2253	na			PBS
B2	9	422	210	222	109	168800	172800	1714400	172200	168800	172800	1714400	172200	na	
B3	9	129	85	76	42	51600	56400	67200	57900	51600	56400	67200	57900	na	
B4	9	676	348	424	233	270400	308600	372800	315200	270400	308600	372800	315200	na	
B5	9	312	149	159	76	124800	123200	121600	123200	124800	123200	121600	123200	na	
B6	9	130	67	64	36	53600	53600	57600	53600	53600	53600	57600	53600	na	
B7	9	407	219	207	113	162800	170400	169800	171100	162800	170400	169800	171100	na	
B8	9	125	76	63	32	50000	55600	51200	53100	50000	55600	51200	53100	na	
D2	9	129	63	77	36	51600	56000	57600	55300	51600	56000	57600	55300	na	
D3	9	550	213	292	172	220000	220000	225200	224800	220000	220000	225200	224800	na	
D4	9	80	31	37	16	24000	27200	25600	26000	24000	27200	25600	26000	na	
D5	9	10	4	3	1	4000	2800	1800	2800	4000	2800	1800	2800	na	
D6	9	182	93	89	41	72800	74800	65600	72000	72800	74800	65600	72000	na	
D1	9	0	0	0	0	0	0	0	0	0	0	0	0	0	omitted from calculations

Screen #	Date
S34	

Screen #	Date
S34	

Screen #	Date
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Screen #	Date
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Screen #	Date
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Screen #	Date
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Screen # S41 **Notebook #** 1941 **Genset SEQ ID NO 472**

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Screen #	S41
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Screen #	S41
Date	

Mouse ID	Day post challenge	Plate A			Plate B			Group SD [IFU/lung]	Wilcoxon P value (vs grp B)	Immunized with
		Inclusions per well @ 1:50	Inclusions per well @ 1:100	Average IFU per lung @ 1:50	Inclusions per well @ 1:200	Average IFU per lung @ 1:100	Average IFU per lung @ 1:200			
B1	9	577	298	304	137	230800	240800	216200	232900	16620/5 5120/575
B2	9	419	193	250	94	167600	177200	150400	168100	
B3	9	231	123	157	68	92400	112000	105800	105500	
B4	9	383	218	238	109	153200	182400	174400	175100	
B5	9	178	121	118	61	71200	95800	90000	90000	
B6	9	615	300	369	147	246000	240000	225200	242100	
B7	9	473	219	237	113	188200	183700	180800	183700	
B8	9	289	190	174	83	115600	145600	132800	134900	
D1	9	65	53	48	26	34000	39800	41600	39700	65483.333 46298.6111 0.0223
D2	9	210	74	109	47	84000	73200	75200	76400	
D3	9	438	207	221	114	174400	171200	182400	174800	
D4	9	124	63	80	43	49800	57200	68800	58200	
D5	9	262	152	142	62	118600	117600	68200	112800	
D6	9	133	57	65	35	54400	48900	59000	52000	

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Screen #	S41
Date	

Mouse ID	Day post challenge	Plate A			Plate B			Group SD [IFU/lung]	Wilcoxon P value (vs grp B)	Immunized with
		Inclusions per well @ 1:50	Inclusions per well @ 1:100	Average IFU per lung @ 1:50	Inclusions per well @ 1:200	Average IFU per lung @ 1:100	Average IFU per lung @ 1:200			
B1	9	500	270	259	135	200000	211600	216500	208800	207962.5 108120.638
B2	9	156	92	86	47	82400	71200	75200	70000	
B3	9	471	263	253	161	188400	214400	209600	228700	
B4	9	445	227	229	108	178000	182400	172800	178900	
B5	9	1045	527	561	255	419000	433200	409000	424100	
B6	9	554	283	333	159	221600	228400	225400	242200	
B7	9	688	267	363	173	227200	260000	279800	250000	
B8	9	134	60	73	40	53800	53200	64000	50000	
J1	9	59	30	47	10	23600	30800	16000	25300	37950 38786.6565 0.002184
J2	9	104	63	55	31	41600	47200	48600	48400	
J3	9	284	131	165	80	113600	115400	125000	118600	
J4	9	17	8	15	6	6000	9200	8700		
J5	9	46	25	16	7	18400	11200	15800		
J6	9	29	12	15	5	11600	10800	8000	10300	

Screen # S43 **Notebook #** 1941 **Genset SEQ ID NO 596**

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Screen #	S43
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Screen #	S43
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Screen # 544 pCACPNM882 Genset SEQ ID NO 880
 Date 105 pCA60kDa Genset SEQ ID NO 596

Highlighted section is excluded from the calculation. Group B values from Screen 43 will be used for Wilcoxon p value calculation. 543 values are in RED.

Mouse ID	Day post challenge	Plate A Inclusions per well @ 1:50	Plate A Inclusions per well @ 1:100	Plate B Inclusions per well @ 1:100	Plate B Inclusions per well @ 1:200	Average IFU per lung @ 1:50	Average IFU per lung @ 1:100	Average IFU per lung @ 1:200	Group mean IFU/lung	Group SD IFU/lung	Wilcoxon p value (vs SA3 grp B)	Immunized with	
B1	9	30	7	65	60000	70400	104000	74200	142850	38040 5033	na		
B2	9	59	23	33	23200	52800	30700	52700	208500	na	na	PBS	
B3	9	85	44	25	38000	35800	40000	31900	70000	na	na		
B4	9	39	20	14	15000	20800	22400	19500	225700	na	na		
B5	9	428	225	223	103	171200	178200	164800	178200	178200	178200	na	
B6	9	468	220	267	102	161200	178000	185000	161200	424100	424100	na	
B7	9	282	153	149	82	112800	120800	131200	121400	242200	242200	na	
B8	9	240	111	122	53	98000	93200	84800	91800	256000	256000	na	
												50000	
11	9	47	15	24	14	18800	15600	22400	18100	77500	39880 5828	0.02933	DNA pCACPNM 882
12	9	313	180	167	84	125200	130800	134400	130300	na	na	na	
13	9	185	61	93	49	74000	69800	78400	72900	na	na	na	
14	9	125	69	66	35	50000	54000	56000	53500	na	na	na	
15	9	180	45	100	41	72000	59000	63400	63400	na	na	na	
16	9	374	143	182	71	148800	122000	113800	128800	na	na	na	
J1	9	105	71	82	29	42000	61200	46400	52700	56516 68687	28805 781	0.0071992	DNA pCACPNM 882
J2	9	68	48	59	28	27200	42000	44800	38000	na	na	na	
J3	9	213	139	164	64	65200	121200	107500	102400	na	na	na	
J4	9	34	24	29	19	13800	21200	30400	21600	na	na	na	
J5	9	146	72	91	39	58400	65200	62400	62800	na	na	na	
J6	9	153	65	100	48	61200	66000	78800	617500	na	na	na	

Screen # 1841 pCA1396 Genset SEQ ID NO 28
 Date 128 pCABk319 Genset SEQ ID NO 315

Mouse ID	Day post challenge	Plate A Inclusions per well @ 1:50	Plate A Inclusions per well @ 1:100	Plate B Inclusions per well @ 1:100	Plate B Inclusions per well @ 1:200	Average IFU per lung @ 1:50	Average IFU per lung @ 1:100	Average IFU per lung @ 1:200	Group mean IFU/lung	Group SD IFU/lung	Wilcoxon p values (vs grp B)	Immunized with	
B1	9	385	183	91	146000	149800	145500	147700	325560	284241 414	na		
B2	9	472	225	121	188000	183800	182000	182000	na	na	na	PBS	
B3	9	578	306	158	231200	249400	249600	249400	na	na	na		
B4	9	1009	448	491	232	402800	375600	371200	381500	na	na	na	
B5	9	756	388	369	201	302400	302800	321600	307400	na	na	na	
B6	9	1716	1384	1471	825	688400	1142000	1320000	1072800	na	na	na	
B7	9	374	200	191	93	149800	148800	158800	148800	na	na	na	
B8	9	276	150	143	77	119400	117200	122200	117000	na	na	na	

pCA60kDa

Genset SEQ ID NO 596

Screen #	549
Date	142

Mouse ID	Day post challenge	Plate A		Plate B		Average IFU per lung @ 1:100	Average IFU per lung @ 1:200	Average IFU per lung @ 1:200	Group mean IFU/lung	Wilcoxon p value (vs matched group)	Immunized with
		Inclusions per well @ 1:50	Inclusions per well @ 1:100	Inclusions per well @ 1:200	Inclusions per well @ 1:50						
C37BL/6											
D1	9	385	181	187	64	148000	138200	102400	131700	108520	0.6622216
D2	9	514	257	279	131	205600	214400	208600	211000	188740	0.93777
D3	9	258	116	133	56	103200	88600	88600	88600	88600	na
D4	9	136	61	74	28	54400	54000	41600	51000	na	PBS
D5	9	109	46	67	17	43800	48400	27200	40800	na	PBS
Balb/c											
E1	9	283	135	127	56	113200	104800	92800	103900	103900	0.6622216
E2	9	903	413	403	190	381200	326400	304000	325600	325600	na
E3	9	511	236	241	115	204000	198000	184000	192500	192500	na
E4	9	397	209	203	105	158800	194800	188000	194100	194100	na
E5	9	389	205	193	88	155600	152000	148800	153700	153700	na
Balb/c											
F1	9	74	31	39	21	28600	26000	33800	28600	28600	0.316632203
F2	9	188	111	102	53	76200	65200	64800	63800	63800	na
F3	9	223	120	109	64	86200	91600	102400	93700	93700	na
F4	9	149	84	77	40	58600	64400	64000	63100	63100	na
F5	9	329	156	183	75	131600	127800	120000	128700	128700	na
C37BL/6											
J1	9	33	11	18	14	13200	10800	22400	14300	56540	0.47740.7834
J2	9	336	166	189	101	134400	142000	161600	145500	145500	0.3095
J3	9	146	68	79	38	58400	68800	56200	68600	68600	na
J4	9	48	12	23	8	19200	14000	12800	15200	15200	na
J5	9	150	62	57	26	60000	47600	41800	48200	48200	na
Balb/c											
L1	9	23	9	22	8	6200	12400	12800	11700	34980	0.3631.7037
L2	9	54	24	17	6	21600	19400	8900	16200	16200	0.1508
L3	9	83	39	49	22	33200	35200	34700	3200	3200	na
L4	9	23	5	11	2	9200	6400	10800	6300	6300	na
L5	9	261	125	149	63	10400	108600	108100	108100	108100	na

pCA60KDa Genset SEQ ID NO 596
pCAIMOMP + pCA80KDa + pCAI764 + pCAI555a

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Mouse ID	Day post challenge	Plate A		Plate B		Average IFU per lung @ 1:200	Average IFU per lung @ 1:200	Group mean IFU/lung	Wilcoxon P values (vs grp B)	Immunized with
		Inclusions per well @ 1:50	Inclusions per well @ 1:100	Inclusions per well @ 1:100	Inclusions per well @ 1:100					
B1	9	729	370	363	188	261600	262300	313800	21763.5 / 103234.453	na
B2	9	676	451	438	227	350400	356000	365200	258400	
B3	9	523	243	312	151	209200	222300	241600	223700	
B4	9	286	150	158	71	119800	123800	113800	120100	
B5	9	885	456	478	227	354000	375200	383200	368900	
B6	9	271	148	188	88	109400	134800	1317600	128900	
B7	9	354	186	223	105	141800	167200	168000	161000	
B8	9	184	120	117	57	73800	94800	91290	88960	
F1	9	442	218	260	108	179800	191200	172800	183000	152100 / 76111.8617 / 0.345
F2	9	138	60	78	24	54400	55600	38400	51000	DNA pCA CRMP 80
F3	9	177	63	98	38	64800	65300	60800	60500	
F4	9	614	278	340	187	245600	247200	2617200	251800	
F5	9	253	149	188	79	101200	127200	128400	126500	
F6	9	598	315	320	138	239400	256000	217600	241000	
11	9	61	39	66	25	32400	42000	40400	39100	35366.0867 / 15656.2731 / 0.00000003
12	9	64	28	24	11	25600	20000	17800	20800	mixture of DNAs
13	9	47	17	23	9	18800	18000	14400	16300	NOMP
14	9	67	38	29	18	26900	26800	26800	26500	CRMP 90
15	9	121	77	59	26	48400	41600	49700	48700	pCAI 764
16	9	162	80	64	37	84800	57800	59200	59800	pCAI 555

exclude B1 from calculations

Mouse ID	Day post challenge	Plate A		Plate B		Average IFU per lung @ 1:200	Average IFU per lung @ 1:200	Group mean IFU/lung	Wilcoxon P values (vs grp B)	Immunized with
		Inclusions per well @ 1:50	Inclusions per well @ 1:100	Inclusions per well @ 1:100	Inclusions per well @ 1:100					
B1	9	0	0	0	0	0	0	0	0	na
B2	9	54	28	51	21600	20800	8000	17800		PRS
B3	9	169	119	83	51	75600	80800	81600	78700	
B4	9	13	7	6	2	5200	3200	4700		
B5	9	524	274	223	120	209600	198800	162000	198900	
B6	9	362	141	181	103	144800	129800	164800	141800	
B7	9	385	190	161	71	150000	138400	113800	135100	
B8	9	123	49	62	17	48200	44400	27200	41300	

Screen #		SS2	Notebook #		1841	Genset SEQ ID NO 241		Genset SEQ ID NO 880		
Date		Page #	pCACPNM882		pCACPNM882		pCACPNM882		pCACPNM882	
Mouse ID	Day post challenge	Plate A	Plate A	Plate B	Plate B	Plate B	Plate B	Wilcoxon's value (vs grp B)	Immunized with	
		Inclusions per well @ 1:50	Inclusions per well @ 1:100	Inclusions per well @ 1:100	Average IFU per lung @ 1:50	Average IFU per lung @ 1:100	Average IFU per lung @ 1:200	Group mean IFU/lung	Group SD IFU/lung	
B1	9	140	75	100	41	50000	70000	65000	124776	109290,946
B2	9	602	289	326	154	240800	250000	248400	248800	na
B3	9	158	83	97	31	63200	72000	49800	64200	PBS
B4	9	854	418	483	226	345800	352400	381600	353000	
B5	9	145	68	88	30	58400	61600	48000	57400	
B6	9	318	170	168	75	127200	135200	120000	128400	
B7	9	18	11	8	5	7200	7800	6000	7600	
B8	9	186	87	110	34	68400	78900	54400	69800	
E1	9	1320	610	775	338	528000	554000	540800	544200	214850,816
E2	9	985	521	730	294	386000	500400	470400	484300	DNA-pCAI 314
E3	9	18	3	0	2	7200	1200	3200	3200	
E4	9	171	54	74	19	68400	512000	30400	503000	
E5	9	206	91	124	43	82100	860000	688000	809000	
E6	9	218	73	186	37	68400	95000	59200	84200	
G1	9	501	177	256	112	200400	172200	176200	181500	256078,907
G2	9	1162	497	626	241	464800	449200	385600	437200	
G3	9	604	278	331	123	241600	244000	198800	231800	
G4	9	865	289	386	188	286000	278800	288800	273100	
G5	9	2315	1076	1387	525	924000	978000	840000	935000	
G6	9	675	308	357	148	270000	286000	238800	258700	

DNA pCAI 419											
DNA pCAI 377											
DNA pCAI 327											
E1	9	1577	785	811	416	630800	638400	685800	643300	349533.333	181068.377
E2	9	387	143	197	90	154800	138000	144000	142700		
E3	9	1477	506	688	253	590800	481800	404800	489700		
E4	9	1065	494	•	•	426000	385200	416000			
E5	9	408	180	248	104	163200	171200	188400	188000		
E6	9	627	259	380	131	250800	255600	209800	242900		
F1	9	94	48	47	18	37600	38000	28800	35600	118466.967	88076.9448
F2	9	575	286	284	130	230000	220000	208000	219500		
F3	9	181	74	82	37	72400	82400	59200	64100		
F4	9	158	65	83	39	63200	59200	62400	61000		
F5	9	456	127	224	107	182400	140400	171200	158600		
F6	9	418	144	285	121	187200	163600	193800	172000		
H1	9	1450	680	720	340	580000	562000	544000	557000	243500	144052.19
H2	9	631	229	237	114	252400	198400	182400	201900		
H3	9	394	149	181	71	157800	132000	113800	133800		
H4	9	372	168	178	89	148800	137600	142400	141800		
H5	9	516	249	285	119	208400	205600	190400	202000		
H6	9	649	250	293	128	259800	217200	204800	224700		

Screen #	554
Date	

* -no count-contaminated well
** -no count-well not stained

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Mouse ID	Day post challenge	Plate A Inclusions per well @ 1:50	Plate B Inclusions per well @ 1:100	Plate A Inclusions per well @ 1:50	Plate B Inclusions per well @ 1:200	Average IFU per lung @ 1:50	Average IFU per lung @ 1:100	Average IFU per lung @ 1:200	Average IFU per lung @ 1:100	Average IFU per lung @ 1:200	Group SD	Wilcoxon p value (vs grp B)	Immunized with
B1	9	239	127	107	57	65600	81200	63500	220150	153071.24	na	na	PBS
B2	9	1560	730	681	378	624000	564400	801600	588600				
B3	9	223	108	101	53	92200	63600	84800	65300				
B4	9	391	184	238	97	156400	172800	156200	164300				
B5	9	229	161	174	93	131600	134000	144800	131700				
B6	9	529	258	261	135	211600	207800	210700	210700				
B7	9	744	333	397	208	297800	262000	334400	304000				
B8	9	469	217	221	108	187800	175200	172800	177700				
B9	9	646	202	297	106	258400	198600	169600	206800	164116.867	60755.846	0.662	DNA pCACPNN 882
B10	9	*	345	321	187	7740	288400	282800					
B11	9	291	169	189	85	159400	142300	136000	144700				
B12	9	459	182	227	98	183800	163600	156800	168900				
B13	9	169	76	78	31	67600	129400	48600	56900				
B14	9	398	138	185	67	158400	129400	107200	128600				
B15	9	343	180	219	81	137200	168600	129600	148500	158300	72712.8829	0.7546	DNA pCACPNN 80 kD
B16	9	478	271	221	117	191200	188800	187200	1931000				
B17	9	605	323	308	190	249000	258600	304000					
B18	9	465	284	250	138	180000	205600	217600	203700				
B19	9	269	**	207	75	107800	161500	1210000	88300				
B20	9	144	**	80	29	57800	84000	48400	42000				

Mouse ID	Day post challenge	Plate A Inclusions per well @ 1:50	Plate B Inclusions per well @ 1:100	Plate A Inclusions per well @ 1:50	Plate B Inclusions per well @ 1:200	Average IFU per lung @ 1:50	Average IFU per lung @ 1:100	Average IFU per lung @ 1:200	Average IFU per lung @ 1:100	Average IFU per lung @ 1:200	Group SD	Wilcoxon p value (vs grp B)	Immunized with
B1	9	207	124	101	56	82800	90000	86500	222400	77400	79500	na	PBS
B2	9	717	414	286	138	288600	280000	222400	267300				
B3	9	217	103	90	49	86800	77200						
B4	9	1373	704	675	329	541200	551800	528400	544700				
B5	9	854	306	371	168	265600	273800	265600	261200				
B6	9	745	450	378	188	288000	331600	297600	314700				
B7	9	260	165	118	58	104000	111200	89600	105500				
B8	9	227	148	127	58	90800	109200	92800	109500				

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Date	

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GenSet SEQ ID NO 477
RCA1635

Mouse ID	Day post challenge	Plate A		Plate B		Average IFU per lung @ 1:50	Average IFU per lung @ 1:200	Average IFU per lung @ 1:100	Group mean IFU/lung	Group SD IFU/lung	Wilcoxon P value (vs GFP B)	Immunized with
		Inductions per well @ 1:50	Inductions per well @ 1:100	Inductions per well @ 1:50	Inductions per well @ 1:200							
B1	9	408	185	180	69	182400	138000	110400	137200	253325	233985.945	na
B2	9	319	129	129	51	127800	103200	811500	1031900			\ PBS
B3	9	545	284	270	103	234000	221800	184800	210500			
B4	9	600	278	279	105	240000	222800	189000	213400			
B5	9	388	190	188	79	155200	155600	126400	148200			
B6	9	201	102	130	54	80100	82300	88400	88100			
B7	9	2322	615	10369	577	928600	793600	923200	856980			
B8	9	619	334	350	187	247800	273800	267200	285500			
C1	9	277	118	134	72	110800	100800	115200	106900	85768.897	61570.721	0.05927
C2	9	386	157	191	75	154400	138200	120000	136200			
C3	9	491	190	230	118	198400	188000	165600	178500			
C4	9	176	62	75	38	70400	54000	60800	60200			
C5	9	19	8	11	8	7600	7000	12800	8900			
ca	9	46	26	24	15	18000	20000	24000	20000			

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Application No.: 09/523,647

Applicant: MURDIN, Andrew D. et al.

Filed: March 10, 2000

TC/A.U.: 1645

Examiner: Mark Navarro

Docket No: 032931/0227

DECLARATION PURSUANT TO 37 CFR 1.131

I, Andrew Murdin, Director, External R&D Canada, Aventis Pasteur, hereby declare that:

1. I am an inventor in the above-identified application ('the application'), and am employed by the assignee, Aventis Pasteur.
2. Details of my employment history are as follows:

Since 2002 Director, External R&D Canada, Aventis Pasteur.

1999-2002 Principal Research Scientist, Aventis Pasteur.

1997-2002 Section Head, Aventis Pasteur.

1993-2003 Project Leader (Chlamydia), Aventis Pasteur.

1990-1993 Research Scientist, Connaught Laboratories Ltd. (subsequently Pasteur Merieux Connaught, subsequently Aventis Pasteur), Toronto, Canada.

1988-1990 Post-Doctoral Research Associate, Dept. of Microbiology, State University of New York, Stony Brook, NY, USA.

1985-1987 Post-Doctoral Research Fellow, Dept. of Microbiology, University of Surrey, Guildford, Surrey, England.

1981-1985 Scientific Officer, Vaccine Research Dept., Animal Virus Research Institute, Pirbright, Surrey, England.

Details of my education are as follows:

B.Sc., University of Bath, England, 1980

Ph.D., University of Surrey, England, 1986.

3. I obtained from Regis Sodoyer, an employee of the assignee Aventis Pasteur, at least 5 mg of the plasmid construct pCACRMP60 before November 4, 1998.

4. Attached are copies of e-mail correspondence between me and Regis Sodoyer. The dates deleted from the e-mail messages are before November 4, 1998. The product identified in the e-mails as CPCRMP60KD is the same as the plasmid construct pCACRMP60 shown in Figure 3 of the application.

5. The construct pCACRMP60 was used to immunize mice as described in Example 3 of the application. Injection of the mice with pCACRMP60 occurred before November 4, 1998.

6. I hereby declare that all statements made herein of my knowledge are true and that all statements made on information and belief are believed to be true; and further that these statements were made with the knowledge that willful false statements and the like are punishable by fine or imprisonment, or both, under section 1001 of Title 18 of the United States Code, and that such willful false statements may jeopardize the validity of this application or any patent issuing thereon.

20th Feb 2004

Date



Andrew Murdin

Director, External R&D Canada, Aventis Pasteur

Subject:

Date

Murdin, Andrew - PMC-CA

From: Murdin, Andrew - PMC-CA
To: Sodoyer, Regis - PMC-FR
Cc: Dunn, Pamela - PMC-CA; Switzer, Iain - PMC-CA
Subject: RE: Shipment
Date:

Thankyou very much Regis, Your laboratory has been busy! Please send this material next week. If you have any more than 5mg please send that too, but we can work with 5mg if that is all you have. The person to contact about the shipments is Sharon James (fax + 1 416 667 2979). I would recommend that you do this personally rather than rely on your shipping department, since the last shipment was packaged with other material being sent to a different department here in Canada and all the documentation went to that department, not to me or Sharon.

Not all chlamydia proteins may express well in E.coli, and I have part of an FTE next year to look at alternative systems, so I will be interested to learn your results with 76kDa. We should discuss this when you return from vacation.

Just so that I am absolutely sure, could you confirm that the purified MOMP is the *C.pneumoniae* MOMP, not the *C.trachomatis* MOMP?

Thanks again and best wishes, Andrew.

From: Sodoyer, Regis - PMC-FR
To: Murdin, Andrew - PMC-CA
Cc: Aujame, Luc - PMC-FR
Subject: Shipment
Date:

Andrew,

Some news from Marcy

If you agree, we have the following list of products ready for shipment.

-CP003 (CPCRMP 9KD)
-CP004 (CPCRMP 60KD)
-CP007 (Incyte 202)
-CP009 (Incyte 605)
-CP012 (Incyte 394)
-CP013 (Incyte 395)
-CP014 (Incyte 396)

5mg each

(Purified MOMP protein (5 mg))

and probably the empty vector if we are on time with the purification.

7 aditional ORFs are cloned and sequenced at both ends and will be purified soon.

The expression of 76K in E. coli (pET28) gives very low yields and a lot of degradation, we are currently trying another expression system (home made vector with Arabinose promoter).

Date _____

Murdin, Andrew - PMC-CA

From: Sodoyer, Regis - PMC-FR
To: Murdin, Andrew - PMC-CA
Subject: Shipment
Date: Wednesday 10:08AM

Andrew,

We have arranged a shipment this morning, content is following :

-CP000 (empty vector) (about 13 mg in 2 separate tubes) (ρ CA/Myc -Ht3)
-CP003 (CPCRM P 9KD)
-CP004 (CPCRM P 60KD)
-CP017 (Incye 397) (in replacement of CP007)
-CP009 (Incye 605)
-CP012 (Incye 394)
-CP013 (Incye 395)
-CP014 (Incye 396)
5mg each
-Purified MOMP protein (25mg) ~5.5mg

This is C.P. MOMP MOMP MOMP
See attached e-mails
you will receive, as well as Sharon James, flight number and arrival time as soon as we know.

Regis

Witnessed _____
Date _____

Signed _____
Date _____